

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a system where a broadcast is output across a medium having a fixed bandwidth to individual home entertainment systems, the broadcast included a plurality of channels of viewable moving image data, a method for optimizing the use of the fixed bandwidth by dynamically restructuring the broadcasting of the plurality of channels based on feedback from at least some of the home entertainment systems, the method comprising the steps for:

upon the occurrence of an event at a first home entertainment system, initiating usage tracking of how viewable moving image data of a selected channel, from among the plurality of channels, is being used at the first home entertainment system;

in response to the event, identifying information related to how the viewable moving image data is being used at the first home entertainment system;

coupling the event with the identified information to generate user behavior information for the first home entertainment system, the user behavior information describing how the first home entertainment system is using the viewable moving image data;

~~generating viewing behavior information at a first home entertainment system that indicates a video tuner at the first home entertainment system is tuned to a selected channel from among a plurality of channels of viewable moving image data included in the broadcast output across the fixed bandwidth medium;~~

combining the ~~viewing~~ user behavior information from the first home entertainment system with ~~viewing~~ user behavior information from other home entertainment systems that corresponds to the viewable moving image data~~selected channel~~, wherein user behavior information from other home entertainment systems includes events used to initiate usage tracking of the viewable moving image data at the other home entertainment systems coupled to corresponding identified information related to how the other home entertainment systems are using the viewable moving image data, the user behavior information from other home entertainment systems describing how the other home entertainment systems are using the viewable moving image data; and

dynamically restructuring the broadcast of at least the selected channel, by at least restructuring the viewable moving image data, and without having to change allocated bandwidth to said selected channel, based on the combined ~~viewing~~ user behavior information describing how the viewable moving image data is being used so as to optimize the use of the fixed bandwidth.

2. (Currently Amended) A method as recited in claim 1, wherein the combined ~~viewer~~-user behavior information is anonymous such that the identities of the first home entertainment system and the other home entertainment systems are not disclosed.

3. (Original) A method as recited in claim 1, wherein said step for dynamically restructuring a broadcast is performed automatically.

4. (Original) A method as recited in claim 1, wherein said step for dynamically restructuring comprises at least one of:

- modifying bandwidth of the broadcast;
- changing modulation of the broadcast;
- changing an encoding scheme of the broadcast;
- varying parameters of the encoding scheme of the broadcast;
- interrupting the broadcast by allocating no bandwidth to the channel so as to entirely shut off the channel;
- redistributing the channel from a first transponder of a satellite television system to a second transponder of the satellite television system; and
- reserving a guaranteed amount of bandwidth for the broadcast.

5. (Currently Amended) A method as recited in claim 1, further comprising the step for transmitting the ~~viewing-user~~ behavior information as feedback across a back channel from the first home entertainment system to a signal source, wherein the ~~viewing-user~~ behavior information is transmitted in one of real time and a deferred basis with respect to the broadcast of the channel.

6. (Currently Amended) A method as recited in claim 5, wherein a statistical analysis is performed at the signal source to determine when a statistically significant number of home entertainment systems have transmitted viewing behavior information.

7. (Currently Amended) A method as recited in claim 1, further comprising the step for transmitting the ~~viewing-user~~ behavior information as feedback across a back channel from the first home entertainment system to a clearinghouse system, wherein the ~~viewing-user~~ information is transmitted in at least one of (i) real time with respect to the broadcast of the channel and (ii) on a deferred basis with respect to the broadcast of the channel.

8. (Original) A method as recited in claim 7, wherein the clearinghouse system performs said step for combining.

9. (Currently Amended) A method as recited in claim 8, wherein a statistical analysis is performed at the clearinghouse system to determine when a statistically significant number of home entertainment systems have transmitted ~~viewing-user~~ behavior information.

10. (Currently Amended) A method as recited in claim 9, wherein the clearinghouse system processes the combined ~~viewing-user~~ behavior information and forwards the results to a signal source.

11. (Currently Amended) A method as recited in claim 10, wherein the processing performed at the clearinghouse system comprises associating the combined ~~viewing-user~~ behavior information with data from a data source.

12. (Original) A method as recited in claim 11, wherein the data source comprises an electronic programming guide that provides data as to at least one of a program and an advertisement.

13. (Original) A method as recited in claim 10, wherein the processing performed at the clearinghouse system comprises generating a profile of at least one of the home entertainment systems and the users.

14. (Original) A method as recited in claim 13, wherein the profile includes the programs of the broadcast to which the home entertainment systems are more frequently tuned compared to other programs of the broadcast.

15. (Original) A method as recited in claim 14, further comprising allocating increased bandwidth to the programs more frequently tuned.

16. (Original) A method as recited in claim 15, wherein the bandwidth is increased at an instant in time prior to the airing of the programs more frequently tuned.

17. (Original) A method as recited in claim 14, further comprising allocating increased bandwidth to channels of the broadcast to which the home entertainment systems are more frequently tuned.

18. (Currently Amended) In a system where a broadcast is output across a medium having a fixed bandwidth and is received by one or more individual home entertainment systems, the broadcast including a plurality of channels of viewable moving image data, a method for restructuring the broadcast based on feedback transmitted from the one or more home entertainment systems across one or more potentially unreliable back channels to a clearinghouse system, the method comprising the acts of:

receiving at the clearinghouse system ~~viewing-user~~ behavior information across a first communication link from a first home entertainment system, wherein the ~~viewing-user~~ behavior information ~~indicates~~ includes an event used to initiate usage tracking of viewable moving image data of a selected channel, from among the plurality of channels, at the first home entertainment system coupled to related information identifying how that a video tuner of the first home entertainment system is tuned to using a the selected channel from among a plurality of channels of viewable moving image data broadcast across the fixed bandwidth medium, the user behavior information from the first home entertainment system describing how the first home entertainment system is using the viewable moving image data;

receiving at the clearinghouse system other ~~viewing-user~~ behavior information across other communication links from other home entertainment systems, wherein user behavior information from other home entertainment systems includes events used to initiate usage tracking of the viewable moving image data at the other home entertainment systems coupled to corresponding related information identifying how the other home entertainment systems are using the selected channel the user behavior information from the other home entertainment systems describing how the other home entertainment systems are using the viewable moving

image data ~~wherein the other viewing behavior information indicates that video tuners at the other home entertainment systems are tuned to the selected channel;~~

combining at the clearinghouse system the viewing behavior information from the first home entertainment system with the other viewing behavior information from the other home entertainment systems to describe how the viewable moving image data is being used in the system; and

automatically restructuring the broadcast of at least the selected channel, by at least restructuring the viewable moving image data, and without having to change allocated bandwidth to said selected channel, based on the combined viewing behavior information.

19. (Original) A method as recited in claim 18, wherein the first communication link and the other communication links are each back channels.

20. (Currently Amended) A method as recited in claim 19, further comprising the act of statistically determining at the clearinghouse system the reliability of the combined viewing user behavior information, wherein said act of automatically restructuring a broadcast is based on the statistical determination performed at the clearinghouse system.

21. (Original) A method as recited in claim 20, wherein the statistical determination performed at the clearinghouse system comprises determining when a statistically significant amount of viewing behavior information has been received to cause the broadcast to be automatically restructured.

22. (Original) A method as recited in claim 19, wherein said act of automatically restructuring a broadcast comprises at least one of:

- modifying bandwidth of the broadcast;
- changing modulation of the broadcast;
- changing an encoding scheme of the broadcast;
- varying parameters of the encoding scheme of the broadcast;
- interrupting the broadcast by allocating no bandwidth to the channel so as to entirely shut off the channel;
- redistributing the channel from a first transponder of a satellite television system to a second transponder of the satellite television system; and
- reserving a guaranteed amount of bandwidth for the broadcast.

23. (Original) A method as recited in claim 19, wherein said act of automatically restructuring a broadcast comprises allocating varying amounts of bandwidth of an MPEG data stream to the channel.

24. (Currently Amended) In a system where a broadcast is provided from a signal source across a medium having a fixed bandwidth and is received by one or more individual home entertainment systems, the broadcast including a plurality of channels having viewable moving image data, a method for optimizing the bandwidth by restructuring the broadcasting of one or more channels within the broadcast based on feedback transmitted from the one or more home entertainment systems to the signal source across one or more back channels, the method comprising the acts of:

transmitting a broadcast from a signal source to one or more home entertainment systems;

receiving at the signal source user viewing-behavior information across a first back channel from a first home entertainment system, wherein the user behavior information from the first home entertainment system includes indicates an event used to initiate usage tracking of a viewable moving image data of a selected channel, from among the plurality of channels of viewable moving image data, at the first home entertainment system coupled to related information identifying how that a tuner of the first home entertainment system tuned to is using a the selected channel from among the plurality of channels of viewable moving image data of the broadcast, and wherein the first home entertainment system is one of the one or more home entertainment systems;

receiving at the signal source other user viewing-behavior information across other back channels from other home entertainment systems, wherein user behavior information from other home entertainment systems includes events used to initiate usage tracking of the viewable moving image data at the other home entertainment systems coupled to related information identifying how the other home entertainment systems are using the viewable moving image data

~~wherein the other viewing behavior information indicates that tuners at the other home entertainment systems tuned to the selected channel~~, and wherein the other home entertainment systems are of the one or more home entertainment systems;

combining the ~~viewing-user~~ behavior information from the first home entertainment system with the other ~~viewing-user~~ behavior information from the other home entertainment systems to describe how the viewable moving image data is being used in the system; and

automatically restructuring a broadcast of the selected channel, by at least restructuring the viewable moving image data, and without having to change the allocated bandwidth to said selected channel, based on the combined ~~viewing-user~~ behavior information.

25. (Currently Amended) A method as recited in claim 24, wherein the ~~viewing user~~ behavior information is received in real time across the first communication link with respect to a program broadcast on the selected channel.

26. (Currently Amended) A method as recited in claim 24, wherein the ~~selected-user~~ behavior information is received on a deferred basis across the first communication link with respect to a program broadcast on the selected channel.

27. (Currently Amended) In a broadcast system, A a computer program product for implementing a method for restructuring a broadcast based on feedback, wherein the broadcast originates from a signal source and is receivable by one or more of a plurality of home entertainment systems, the broadcast including a plurality of channels of viewable moving image data, the computer program product comprising:

a computer readable medium carrying computer program code means utilized to implement the method, wherein the computer program code means comprises executable code for implementing the acts of:

receiving at a clearinghouse system ~~viewing-user~~ behavior information across a first communication link from a first home entertainment system, wherein the ~~viewing-user~~ behavior information ~~indicates~~ includes an event used to initiate usage tracking of a viewable moving image data of a selected channel, from among the plurality of channels, at the first home entertainment system coupled to related information identifying how ~~that a video tuner at the first home entertainment system is tuned to a~~ using the selected channel from among the plurality of channels of viewable moving image data;

receiving at the clearinghouse system other ~~viewing-user~~ behavior information across other communication links from other home entertainment systems, wherein user behavior information from other home entertainment systems includes events used to initiate usage tracking of the viewable moveable image data at the other home entertainment systems coupled to related information identifying how the other home entertainment systems are using the viewable moving image data ~~wherein the other viewing-behavior information indicates that the other home entertainment systems are tuned to the selected channel;~~

combining the ~~viewing-user~~ behavior information from the first home entertainment system with the other ~~viewing-user~~ behavior information from the other home entertainment systems to describe how the selected channel is being used in the broadcast system; and

automatically restructuring the broadcast of the selected channel, by at least restructuring the viewable moving image data, and without having to change the allocated bandwidth to said selected channel, based on the combined ~~viewing-user~~ behavior information.

28. (Original) A computer program product as recited in claim 27, wherein said first communication link and said other communication links are each back channels.

29. (Currently Amended) A computer program product as recited in claim 28, wherein the ~~viewing-user~~ behavior information is received in real time with respect to a program broadcast on the selected channel.

30. (Currently Amended) A computer program product as recited in claim 28, wherein the ~~viewing-user~~ behavior information is received on a deferred basis with respect to a program broadcast on the selected channel.

31. (Currently Amended) In a system that provides a broadcast across a medium having a fixed bandwidth to individual home entertainment system, the broadcast including one or more channels of viewable moving image data, a method for improving the broadcast based at least in part by feedback received from one or more of the home entertainment systems, the method comprising the acts of:

receiving a broadcast at a local signal source, wherein the broadcast is sent from a central signal source;

transmitting the broadcast to one or more home entertainment systems;

receiving at the local signal source ~~viewing-user~~ behavior information from at least one of the one or more home entertainment systems, wherein the ~~viewing-user~~ behavior information is received across a back channel, the user behavior information including events used to initiate usage tracking of viewable moving image data of a selected channel, from among the one or more channels, at the at least one home entertainment system coupled to related information identifying how the at least one home entertainment system is using the received viewing ~~behaving indicating that tuners at the one or more home entertainment systems are tuned to a selected channel from among the one or more channels of~~ viewable moving image data; and

combining the user behavior information to describe how the selected channel is being used in the system; and

transmitting a dynamically restructured broadcast to the one or more home entertainment systems, wherein the restructured broadcast is restructured by at least restructuring the viewable moving image data, without having to change allocated bandwidth to said selected channel, and is restructured based at least in part on the description of how the selected channel is being used in the system ~~the viewing behavior information received.~~

32. (Original) A method as recited in claim 31, wherein the broadcast is dynamically restructured at the local signal source.

33. (Original) A method as recited in claim 32, wherein the dynamic restructuring of the broadcast comprises at least one of:

- modifying bandwidth of the broadcast;
- changing modulation of the broadcast;
- changing an encoding scheme of the broadcast;
- varying parameters of the encoding scheme of the broadcast;
- redistributing a channel from a first transponder of a satellite television system to a second transponder of the satellite television system; and
- reserving a guaranteed amount of bandwidth for the broadcast.

34. (Currently Amended) A method as recited in claim 31, further comprising the acts of:

- transmitting the ~~viewing~~user behavior information to one of the central signal source and a clearinghouse system;

- wherein said act of transmitting the ~~viewing~~user behavior information is performed before said act of transmitting a dynamically restructured broadcast; and

- receiving the dynamically restructured broadcast.

35. (Original) A method as recited in claim 34, wherein the broadcast was dynamically restructured by at least one of:

- a modification in bandwidth allocation;
- a change in the modulation of the broadcast;
- a change in an encoding scheme of the broadcast;
- a modification in a parameter of the encoding scheme of the broadcast;
- a redistribution of a channel from a first transponder of a satellite television system to a second transponder of the satellite television system; and
- a reservation of a guaranteed amount of bandwidth for the broadcast.